

# Abstract Of The Disclosure

A method for thermally-assisted magnetic recording at an areal density above 100 Gb/in<sup>2</sup> combines thermo-magnetic writing and optical or magnetic reading. In order to increase the stability of the recorded information, writing is carried out at an elevated temperature on a medium with a very high coercivity at room temperature. The magnetic write head determines the track width, allowing very small track widths, and the coercivity gradient resulting from the thermal gradient at the edge of the focused radiation spot, determines the bit length. The radiation may be varied so that the coercivity gradient at the trailing edge of the magnetic field is highest, when the magnetic field is switched.